REMARKS

Reconsideration is requested.

Claims 97 and 100 have been canceled, without prejudice. Claims 53, 57-73, 81-90, 92 and 96, 98, 99 and 101-104 are pending. Claims 53 and 103 have been revised, without prejudice. Basis for the revisions may be found throughout the specification and claims, such as in claims 97, 100 and 103, and pages 17-19.

The Section 112, second paragraph, rejection of claims 53, 57-73, 81-90, 92 and 96-102 is traversed. Reconsideration and withdrawal of the rejection are requested as one of ordinary skill will appreciate the metes and bounds of the claimed invention in defining a food material as containing a milk protein. The claims are definite.

The Section 103 rejection of claims 53, 57-73, 81-90, 92 and 96-104 over Tamime (1985, Yoghurt; Science and Technology (referred to by the Examiner as R1)), Reddy (WO 98/18349 (referred to by the Examiner as R2)) and Takahashi (EP 1 206 909 (referred to by the Examiner as R3)) is traversed. Reconsideration and withdrawal of the rejection are requested in view of the following distinguishing remarks.

Tamime (R1) discloses processes for the production of fermented milk including yoghurt, yoghurt beverage, stirred yoghurt and the like. The process outlined on page 236 discloses the addition of sugar and/or stabilisers to milk, followed by homogenisation, heat treatment and inoculation with a starter culture.

Table 2.9 on page 26 lists a variety of different stabilisers permitted by FAO/WTO and the Food & Drugs Act, classified into natural gums, modified gums and synthetic gums. Low methoxy pectin is listed as one example (of many) of a modified gum.

R1 does not describe the use of depolymerised pectin as a stabiliser. Furthermore, R1 does not describe the addition of depolymerised pectin to a milk product before pasteurisation and fermentation.

Reddy (R2) describes the fortification of food stuffs with calcium. In particular, R2 describes a calcium complex which can be used to fortify milk beverages without resulting in protein destabilisation or imparting an undesirably high viscosity.

The calcium complex can be prepared by mixing an aqueous solution or suspension of a calcium compound with an aqueous solution of a hydrolysed polysaccharide, such as a hydrolysed pectin.

Takahashi (R3) relates to the stabilisation of acidic protein foods. In particular the application aims to provide acidic protein foods which achieve improved stability under acidic conditions and enhanced palatable texture due to lower viscosity of the products. The application describes the stabilisation of acidic protein foods by the addition of low-molecularized pectin at greater than 0.4wt%.

The present application provides alternative stabilisers which may be added during the production of fermented protein products prior to both pasteurisation and the fermentation steps. This has significant commercial advantages as described on page 10 of the description.

The claimed invention would not have been obvious in view of the cited combination of art. It would not have been obvious, for example, to have modified the teaching of R1 by incorporating the stabilisers of R2 and R3, as suggested by the Examiner. One of ordinary skill in the art would not have had a reasonable expectation

from R2 and R3 that doing so would have led to a successful process for producing a fermented diary product, as also alleged by the Examiner.

The applicant submits that it would not have been obvious for the ordinarily skilled person to have incorporated 0.3 to 3.0 weight % of a depolymerised pectin (such as those described in R2 and R3). Furthermore, the ordinarily skilled person would have had no reasonable expectation that incorporating depolymerised pectins in the amount claimed would have led to diary products having surprising and superior viscosity and sensory thickness characteristics.

R2 relates to "the fortification of food and more particularly to the fortification of food with calcium". See page 1, lines 5 and 6. R2 explains that calcium sources currently used for fortification are insoluble or substantially insoluble at around neutral pH. For example, calcium carbonate, calcium phosphates, calcium citrate and other organic acid salts of calcium result in precipitation and a chalky mouth feel. R2 states,

> "It is also common practice to stabilize or reduce the sedimentation of the calcium and milk proteins in the milk beverages fortified with calcium sources by adding carrageenans, pectins and/or other gums, but such materials impart an undesirably high viscosity to milk. Protein destabilization, e.g. preciptitation and coagulation is mainly attributed to free calcium ions in the system." See page 1, lines 22-26 of R2.

The applicant submits that in concluding that the ordinarily skilled person would have modified R1 in view of R2, the Examiner has used impermissible hindsight. R2 aims to provide a method of fortifying milk beverages with calcium while preventing the destabilising effects of free calcium ions. In contrast, R1 concerns a process for

preparing commercial yoghurt involving pasteurisation and fermentation of a stabilised milk mixture. The ordinarily skilled person would not have been motivated by the cited art to have combined the teachings of a document relating to fortification of food stuffs, in particular milk, with another relating to the production of commercial yoghurt as these address different technical problems.

Furthermore, even if the ordinarily skilled person were to consider R2 (which would not have been obvious), R2 teaches the use of a complex of calcium and hydrolysed polysaccharide, such as a hydrolysed pectin, as the stabilising agent. As such, the ordinarily skilled person would have only been motivated, at best, to have used such a complex in the process of R1. Neither R1 nor R2 provide the ordinarily skilled person with any information on the effect these calcium complexes may have on the starter culture, or the fermentation process; therefore, the ordinarily skilled person would have had no reasonable expectation that the complexes of R2 would have made a suitable stabilising agent in a process for producing a fermented yoghurt product.

It is further noted that, R2 does not teach the use of hydrolysed pectin alone as a stabiliser of milk proteins. Based on the fact that the intended purpose of R2 is to fortify food products, the ordinarily skilled person would not have considered employing hydrolysed pectin without accompanying calcium complexation as described in R2. To do so would negate the principle of operation of R2 (see MPEP § 2143.01 IV). As such, based on the teaching of R2, the ordinarily skilled person would not have been motivated by the cited art to have employed hydrolysed pectin in the process of R1.

The stabiliser of the claimed invention would not have been obvious in view of the cited art.

Further, one of ordinary skill would not have combined R1 and R3, as alleged by the Examiner. R3 relates to a stabilizer for acidic protein foods. See ¶ [0001] of R3. R3 mentions at ¶ [0002] that proteins in acidic milk beverages are unstable leading to coagulation and separation. At ¶ [0005], R3 states that pectin can improve the stability of acidic milk beverages but it increases the viscosity at the same time. At ¶ [0009] of R3, it is stated it is an object of R3 is to achieve improved stability of proteins under acidic conditions and enhance palatable texture by reducing the viscosity of the products. As such, R3 is concerned only with lowering the viscosity of **pre-acidified** milk while ensuring stability. The ordinarily skilled person would not have been motivation by the cited art to have combined the teachings of a disclosure relating to production of commercial yoghurt by fermentation with a document which relates to lowering the viscosity of pre-acidified milk beverages, as these address different technical problems.

In contrast to R3, the stabiliser of R1 is used **prior** to acidification. There is no teaching in R3 that the low-molecularized pectins would be able to stabilise non-acidified milk. As such, the ordinarily skilled person, without knowledge of the present disclosure, would have had no reasonable expectation that a low-molecularized pectin could stabilise the non-acidified milk mixture of R1.

Furthermore, the ordinarily skilled person imparted with common general knowledge of the field would appreciate that pectins are incompatible with processes

involving a fermentation step due to their ability to induce undesirable phase separation (see page 10, lines 19 to 22 of the specification). Therefore, traditionally it has been necessary to add pectin stabilisers **after** fermentation in order to achieve the desired stabilisation of the food product. The ordinarily skilled person would understand that during fermentation, the pH of the milk is reduced gradually and slowly, leading to a disintegration of the casein molecules that thickens or gels the milk into yoghurt. The addition of pectins prior to fermentation induces phase separation, which in the present case is undesirable as it adversely affects the characteristic yoghurt structure.

The ordinarily skilled person would therefore appreciate that pectins are **ineffective** if added to milk **prior to fermentation**. Instead, the ordinarily skilled person would appreciate that pectins are typically added **after** fermentation to protect acidified proteins against aggregation. This was well established in the art at the priority date of the present application, such as is described on page 4, lines 4 to 22 of the present specification.

This is consistent with the teaching of R3 which relates only to stabilisation **after** acidification. In R3, where the acidic protein food is a lactic acid bacterial beverage or fermented milk drink (see ¶ [0025]), the ordinarily skilled person would understand that the low-molecularized pectin is added after fermentation; there is no teaching or suggestion it can be added before.

In view of the above, the ordinarily skilled person would consider the teaching of R3 incompatible with the process of R1. The ordinarily skilled person would have only considered applying the teaching of R3 to R1 if R1 allowed for a stabiliser to be added

after fermentation, which it does not. To suggest that only the low-molecularized pectin can be taken from the disclosure of R3 and used at any point in R1 is to ignore the teaching of R3 as a whole.

The Examiner will appreciate that

> "The test for obviousness is not whether the features of a second reference may be bodily incorporated into the structure of the primary reference…Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art" See MPEP § 2145 III.

As described in the remarks of the Amendment filed August 5, 2010, surprisingly, the addition of 0.3 to 3.0 weight % of the stabiliser leads to a marked improvement in viscosity compared to 0.15 weight % SY200 (corresponding to the maximal acceptable level of full length GRINSTED pectin SY200). This is shown in Example 3 on page 41 of the application. See objectives set forth at lines 3 to 10 of page 41 of the specification. The results in the table on page 43 show, for example, that yoghurt samples containing 0.3 weight % of depolymerised pectins and above exhibits increased viscosity, enhanced sensory thickness and creamy perception. Also, contrary to traditional, commercial high molecular weight pectin types like GRINSTED pectin SY200, high dosages of depolymerised pectin can be dry-blended, dispersed and hydrated with milk powder prior to pasteurisation, inoculation and fermentation for the production of stirred yoghurt. This is possible without creating the grittiness that usually happens with standard pectin products like SY200 dosed at 0.15 to 0.2 % (page 44, lines 27 to 29).

Manipulation of the viscosity, as alleged by the Examiner, would not been routine for the ordinarily skilled person. In light of R3, the ordinarily skilled person would not have expected depolymerised pectins to result in increased viscosity compared to the pectins of R1.

In fact, R3 teaches that the addition of low-molecularized pectin results in a lower viscosity than if traditional pectins are used (see ¶ [0005] and ¶ [0029]). As such, the ordinarily skilled person would have had no reasonable expectation that incorporating depolymerised pectins in the specific amount presently claimed would lead to dairy products having such surprisingly superior viscosity and sensory thickness characteristics when compared to traditional pectins, as demonstrated in Example 3 of the application. Nor would one of ordinary skill in the art have had any reasonable expectation that such products would be free from the grittiness usually associated with full length standard pectin products.

Accordingly, the Applicant submits the present claims are inventive. Withdrawal of the Section 103 rejection is requested.

The claims are submitted to be in condition for allowance and a Notice to that effect is requested. The Examiner is requested to contact the undersigned, preferably by telephone, in the event anything further is required.

Respectfully submitted,

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